

Amendments to the Specification:

Please replace the paragraph at page 1, lines 5-8, with the following amended paragraph:

This application claims priority under 35 U.S.C. § 119 from U.S. Provisional Patent Application Serial No. ~~60/223,647~~, No. 60/223,647, filed August 8, 2000 and U.S. Provisional Patent Application Serial No. 60/255,837, filed December 15, 2000; each of which is hereby incorporated by reference in its entirety.

Please replace the paragraph bridging pages 1-2, with the following amended paragraph:

The physiological response to steroid hormones is mediated by specific interaction of steroids with nuclear receptors, which are ligand-activated transcription factors that regulate the expression of target genes. These receptors consist (in an ~~aminoterminal~~ amino-terminal-to-carboxyterminal carboxy-terminal direction) of a hypervariable ~~aminoterminal~~ amino-terminal domain that contributes to the transactivation function; a highly conserved DNA-binding domain responsible for receptor dimerization and specific DNA binding; and a ~~carboxyterminal~~ carboxy-terminal domain involved in ~~ligand-binding~~ ligand binding, nuclear localization, and ligand-dependent transactivation.

Please replace the paragraph at page 2, lines 10-17, with the following amended paragraph:

Recently, cDNA was cloned from rat prostate and shown to have significant homology to a previously isolated rat estrogen receptor (~~Kuiper *et al.*~~, Kuiper *et al.*, ~~Proc. Natl. Acad. Sci. USA~~ Proc. Natl. Acad. Sci. USA 93:5925, 1996); this receptor was designated ER β to distinguish it from the previously cloned receptor, ER α . Rat ER β was shown to be expressed in prostate, testes, ovary, and thymus, in contrast to ER α , which is most highly expressed in uterus, breast, liver, and pituitary. A human ER β homologue has been reported (~~Mosselman *et al.*~~, Mosselman *et al.*, FEBS Letts. 392:49, 1996), having the

~~aminoterminal~~ amino-terminal sequence Gly-Tyr-Ser. A human ER β has been described in PCT Publication WO 99/07847.

Please replace the paragraph bridging pages 2-3, with the following amended paragraph:

Hepatic lipase (HL) is a lipolytic enzyme that is synthesized primarily in the liver. HL hydrolyzes triglycerides and phospholipids present in chylomicron remnants, intermediate density lipoprotein (IDL), and high-density lipoprotein (HDL). Through its function as a ~~lipolytic~~ lipolytic enzyme, HL plays a major role in the metabolism of circulating plasma lipoproteins resulting in elevation of small, dense atherogenic LDL with a decrease in HDL plasma levels. Several lines of evidence demonstrate the important role of HL in HDL metabolism. Patients with a genetic deficiency of HL have increased plasma levels of HDL cholesterol and phospholipids (Breckenridge *et al.*, *Atherosclerosis*, 45:161, 1982). Increased HDL is also a hallmark of HL-deficient states induced by infusion of anti-HL antibodies (Goldberg *et al.*, *J. Clin. Invest.* 70:1184, 1982), genetic manipulation (Homanics *et al.* *J. Biol. Chem.* 270:2974, 1995) or naturally present in various animal models (Clay *et al.* *Biochim. Biophys. Acta.* 1002:173, 1989). Conversely, overexpression of HL decreases plasma HDL concentrations in transgenic mice (Busch *et al.* *J. Biol. Chem.* 269:16376, 1994) and rabbits (Fan *et al.* PNAS Proc. Natl. Acad. Sci. USA 91:8724, 1994).

Please replace the paragraph at page 3, lines 14-18, with the following amended paragraph:

The present invention provides for a transformed cell that expresses a functional estrogen receptor, a C/EBP transcription factor, and a reporter gene that is associated with HL. In one specific embodiment, the estrogen receptor is a human estrogen receptor. In another specific embodiment, the transcription factor is C/EBP α . ~~The In~~ another specific embodiment, the reporter gene is luciferase.

Please replace the paragraph at page 3, lines 19-20, with the following amended paragraph:

One specific embodiment provides that the cell is a hepatocarcinoma cell. In a further embodiment, the hepatocarcinoma cell is a ~~HEPG2~~ HepG2 cell.

Please replace the paragraph at page 3, lines 21-25, with the following amended paragraph:

The present invention also provides for an assay system for estrogen ligands that modulate HL activity in a population of the transformed cells that are described above. In one specific embodiment, the estrogen receptor is a human estrogen receptor. In another specific embodiment, the transcription factor is C/EBP α . ~~The In~~ another specific embodiment, the reporter gene is luciferase.

Please replace the paragraph at page 3, lines 26-27, with the following amended paragraph:

One specific embodiment provides that the cell is a hepatocarcinoma cell. In a further embodiment, the hepatocarcinoma cell is a ~~HEPG2~~ HepG2 cell.

Please replace the paragraph at page 4, lines 9-10, with the following amended paragraph:

One specific embodiment provides that the cell is a hepatocarcinoma cell. In a further embodiment, the hepatocarcinoma cell is a ~~HEPG2~~ HepG2 cell.

Please replace the paragraph at page 9, lines 6-13, with the following amended paragraph:

The term "heterologous" refers to a combination of elements not naturally occurring. For example, heterologous DNA refers to DNA not naturally located in the cell, or in a

chromosomal site of the cell. Preferably, the heterologous DNA includes a gene foreign to the cell. A heterologous expression regulatory element is ~~[[a]]~~ such an element operatively associated with a different gene than the one it is operatively associated with in nature. In the context of the present invention, the vectors for expression of the estrogen receptor, transcription factor, and reporter gene operatively associated with the HL promoter is heterologous to a host cell in which it is expressed, *e.g.*, a hepatocarcinoma cell.

Please replace the paragraph bridging pages 14-15, with the following amended paragraph:

Lentivirus vectors. In another embodiment, lentiviral vectors ~~are~~ can be used as agents for the direct delivery and sustained expression of a transgene (for a review, *see*, Naldini, Curr. Opin. Biotechnol., 9:457-63, 1998; *see also* Zufferey, *et al.*, J. Virol., 72:9873-80, 1998). Lentiviral packaging cell lines are available and known generally in the art (*see* Kim *et al.*, J. Virology, 1998, 72:811 - 816). High-titer lentivirus vectors have been found to be excellent transfection agents for protein function assays in tissue cultured cells. An example is a tetracycline-inducible VSV-G pseudotyped lentivirus packaging cell line which can generate ~~virus particles~~ virus particles at titers greater than 10⁶ IU/ml for at least 3 to 4 days (Kafri, *et al.*, J. Virol., 73: 576-584, 1999). The vector produced by the inducible cell line can be concentrated as needed for efficiently transducing ~~nondividing~~ non-dividing cells *in vitro*.

Please replace the paragraph at page 18, lines 23-28, with the following amended paragraph:

An antagonist screen involves detecting changes in the level of expression of the reporter gene by the host cell contacted with a test compound; generally, reporter gene expression is not affected or increases. If in the presence of a known ER agonist the test compound does not prevent inhibition of HL activity or increases the observed agonist HL inhibition, the test compound may not recognize the ER isoform or may be producing effects on HL activity through mechanisms other ~~then~~ than interaction with the ER.

Please replace the paragraph at page 20, lines 16-26, with the following amended paragraph:

Human hepatocarcinoma cells (HepG2, ~~ATTC# HB8065~~ ATCC® Cat. No. HB-8065), were grown in a 75cm² flask in Dulbecco's modified Eagle medium (DMEM) (Gibco BRL; Rockville, MD), supplemented with 1%, by volume, ~~glutamax~~ GlutaMAX™; 1%, by volume, penicillin/~~streptomycin~~ streptomycin; 1%, by volume, non-essential amino acids; and 10%, by volume, heat inactivated fetal bovine serum. Cell media was replaced every 2-3 days. Confluent cells were rinsed once with phosphate-buffered saline and 5 mL of a prewarmed solution comprised of about 0.05% trypsin, by volume, and about 0.5 mM ethylenediamine tetraacetic acid was added. Cells were left at room temperature for 5 minutes and ~~cell~~ cells were then dislodged from the flask by tapping the flask 50 times. Trypsinization was halted by the addition of about 8.5 mL of growth cell culture media. Cells were transferred to a test tube and centrifuged at about 300 x g for about 5 minutes. Total cells were counted and resuspended at a concentration of about 1 x 10⁷ cells/200 µL of growth cell culture media.

Please replace the paragraph at page 21, lines 12-20, with the following amended paragraph:

After estrogen treatment, cells were washed with phosphate-buffered saline and lysed with Cell Culture Lysis Reagent (Promega; Madison, WI), 50 µL/well, by shaking the plate at room temperature for about 20 minutes. From each well, 35 µL of cell lysate was ~~were~~ transferred to a 96 lumat plate. Luciferase activity was determined by addition of 100 µL luciferase substrate and emitted light was detected with a Dentate Microfluor WHT FB using the Luciferase Assay System (Promega; Madison, WI). β-galactosidase activity was determined by adding 10 µL of cell lysate and 100 µL β-galactosidase light emission buffer (~~Tropix; Bedford MA~~) to (Tropix; Bedford MA) to a lumat plate. β-galactosidase activity was determined with a Microlumat LB 96P (EG&G Berthold). Emitted light, for each assay, was detected for 10 seconds.